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RESEARCH BRIEF

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Economic Diversity and Student Outcomes at NOVA

Economic diversity has received growing attention in higher education. This Research Brief presents findings from a study published in January 2017 by R. Chetty et al. in the *New York Times* titled, *Some Colleges Have More Students from the Top 1 Percent than the Bottom 60. Find Yours.*[1] The study highlights how well or how poorly colleges have built an economically diverse student body. The researchers traced 30 million students who were born between 1980 and 1991 and linked anonymized tax returns of both students and parents to student college attendance records from nearly every college in the US. Their analyses show how colleges shape a student's prospect of upward mobility and how more students can climb the income ladder through higher education.

Key Findings
- The median family income of NOVA students is $79,800; however, when adjusted for the regional cost-of-living, it is $66,834.
- The median student income at age 34 for NOVA students is $37,300.
- Nineteen percent of NOVA students moved up two or more quintiles after attending NOVA in reference to their family/parent income.
- Among the students who were in the bottom quintile of family/parent income, 26% moved to the top quintile as adults.

Summary of Findings

Median Family Income
Some important considerations, such as the high cost-of-living in NOVA's region, are presented on the next page.

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[1] https://www.nytimes.com/interactive/2017/01/18/upshot/some-colleges-have-more-students-from-the-top-1-percent-than-the-bottom-60.html?_r=0 . Add Northern Virginia Community College to see NOVA-specific data.

The data show that the median family income of NOVA students is $79,800. NOVA ranks 40th out of 748 two-year colleges, and NOVA enrolls only 9.7% of the students from the lowest income quintile. Does it mean that NOVA underrepresents students from low-income families? Probably not, based on the following:

- Compared to the median family income in the DC metropolitan area ($108,141), the median family income of NOVA students ($79,800) is almost $30,000 lower indicating the NOVA population, on average, is poorer than the regional population.

- Moreover, when the median income is adjusted for the cost-of-living, it reduces from $79,800 to $66,834, indicating that the purchasing power of the dollar is much less in this region. In other words, NOVA may actually be serving a much greater proportion of lower-income students than what the unadjusted/raw income data in the article presents.

- Since the cost-of-living adjustment would shift the income distribution downward, it would reclassify a significant proportion of the students who are currently in the high income strata into the lower income strata, affecting all the relevant metrics accordingly: the percentage of students from the top 1%, from the top 5%, from the top 10%, from the top 20%, and from the bottom 20%.

Note: The original study describes that when cost-of-living was factored into the analyses, for verification purposes, the findings did not change much. However, it can be speculated that this conclusion was based on some specific metrics (e.g., mobility rate), overall trends, and aggregate data, which were the main focus of the study and were probably not as susceptible to cost-of-living adjustments, which occur at colleges in the extremes of the cost-of-living spectrum.

Median Student Income at Age 34

The median student income at age 34 for NOVA students is $37,300, and NOVA ranks 13th out of 690 two-year colleges. Is this a significant ranking for NOVA?
If the above argument is extended to this metric and income is adjusted for the cost-of-living, the median student income at age 34 would reduce substantially. However, given the current high ranking, NOVA may still hold a decent ranking among two-year colleges.

Student income at age 34 indicates that 19% of NOVA students moved up two or more quintiles in reference to their family/parent income (Overall Mobility Rate Index). Does the cost-of-living adjustment affect this rate?
Not necessarily. Since the cost-of-living adjustment would apply to both family income and student income, they would hold the same relative position, and therefore, this metric would likely remain the same.

Mobility Rate of NOVA Students

The data show that among the students who were in the bottom quintile of family/parent income, 26% moved to the top quintile as adults, and NOVA ranks 7th out of 690 two-year colleges in this category. How should one interpret this metric in the light of the new information?
The cost-of-living adjustment could move some of the students down who are currently bordering on the top quintile (based on income at age 34), which could diminish the percentage

of the affluent students slightly. However, the cost-of-living adjustment could also put more students in the bottom quintile, increasing the pool of students that can potentially reach the top quintile. Overall, this metric could change, however, probably slightly.

Mobility Rate, or the share of students who moved from the bottom quintile to the top quintile according to the current data, is 2.5%. Would this change if the income is adjusted for the cost-of-living?
Mobility Rate = (% students from the bottom quintile) X (% students from the bottom quintile that moved to top quintile as adults) = 9.7% X 26% = 2.5%.

Since the cost-of-living adjustment would affect both components which go into the mobility rate calculation, this rate may be considerably different and likely in favor of NOVA.

Discussion of Findings

This Research Brief focuses on NOVA data presented in the article in an effort to understand its significance and implications to NOVA as a college. The article reports data on various metrics such as the proportion of NOVA students coming from various strata of family/parent income, how the NOVA students fare later in life, median student income at age 34, comparison of family income vs. student income later in life, and comparison of NOVA with other two-year colleges on most of these metrics.

The original study, the *Mobility Report Cards* (MRC) research project (Chetty et al., 2017) attempts to identify the rate of intergenerational income mobility at colleges nationwide.[2] Based on over 30 million de-identified tax records, the researchers focus on students who attended a post-secondary institution between the ages of 18 and 22. The study presents overall trends on Mobility Rate and other metrics. The interactive dashboard in the article published on the *New York Times* website further allows readers to view and explore individual college data in comparison with other peer colleges.[2]

Before proceeding further, however, it is important to note a few items about the data:
First, the aforementioned metrics are based on income data. Since income can be sensitive to regional cost-of-living, comparisons based on income can present a different outcome when adjusted for this factor. Accordingly, in order to verify the robustness of the findings, the original study describes taking cost-of-living into account, but the authors note that the findings did not change much based on this factor. However, we speculate that this conclusion was based on some specific metrics (e.g., mobility rate), overall trends and aggregate data, which were the main focus of the study and were probably not as susceptible to cost-of-living adjustments as some of the individual colleges' data, especially for the colleges at the extremes of the cost-of-living spectrum. Thus, in exploring and explaining NOVA data in this Research Brief references to cost-of-living adjustments are made. Second, it is also useful to note that in order to refer to

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[2] https://www.nytimes.com/interactive/2017/01/18/upshot/some-colleges-have-more-students-from-the-top-1-percent-than-the-bottom-60.html?_r=0 . Add Northern Virginia Community College to see NOVA-specific data.

various income strata, the data uses the term 'quintile'[3], which refers to "one fifth of the population when the population is divided into five equal parts (based on income, in this case)."

Methodological Notes Useful to Consider in Interpreting the Data

Do the findings appropriately identify and match students to the correct institution (and how are transfer students handled)?

- Measures of outcomes and mobility in the original report focus on the birth cohort of 1980-1982: these students attended college between 1999 and 2004 (the ages 19-22 excludes students who attended later in life); and their income level is measured in 2014 (ages 32-34 years old).
- A college is assigned to a student based on the institution the student attended for the most years between the ages 19 to 22 (inclusive).
    - Students who attend NOVA for a few semesters before transferring may be categorized under the transfer institution. However, if a student attends two or more colleges for the same number of years, the student's college is defined as the first college he or she attended.
- Data does not allow identification of degree-seekers versus other types of students, i.e., the data only shows that the student enrolled at a post-secondary institution between ages 19-22.
    - This may be an important distinction as community college students tend to have more diversity in goals (workforce development, attain an Associate's degree, transfer, etc.) than students at four-year institutions (attain a Bachelor's degree).

Does the data reflect current outcomes at NOVA?

The original report constructs success and mobility rates for the 1980-1982 birth cohorts. These students attended NOVA in the early 2000s and outcomes may have shifted since then.

References

Chetty, R., Friedman, J., Saez, E., Turner, N., & Yagan, D. (2017). *Mobility Report Cards: The Role of Colleges in Intergenerational Mobility*. Available at http://www.equality-of-opportunity.org

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[3] According to the dictionary, a quintile is "any of five equal groups into which a population can be divided according to the distribution of values of a particular variable." In the present case, the variable of interest is family/parent income.